

October 8, 2002

Mr. Fred Cayia  
Acting Site Vice President  
Point Beach Nuclear Plant  
Nuclear Management Company, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - RELIEF REQUEST 5  
REGARDING VISUAL EXAMINATION OF INSULATED BOLTING ON BORATED  
SYSTEMS (TAC NOS. MB5411 AND MB5412)

Dear Mr. Cayia:

By letter dated March 22, 2002, the Nuclear Management Company, LLC (the licensee) submitted Relief Request 5 (RR-5) for the Point Beach Nuclear Plant (PBNP), Units 1 and 2.

In RR-5, which was submitted pursuant to 10 CFR 50.55a(a)(3)(i), the licensee proposes to use American Society of Mechanical Engineers (ASME) Code Case N-533-1, "Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure Retaining Bolted Connections, Section XI, Division 1," as an alternative to the ASME *Boiler and Pressure Vessel Code*, Section XI, Article IWA-5242(a), as specified in the ASME Code, Section XI, 1998 edition with addenda through 2000.

The Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's proposed alternative and has concluded that the use of Code Case N-533-1 provides an acceptable level of quality and safety for examination of the bolted connections on systems borated for controlling reactivity during pressure tests as prescribed by Section XI, Article IWA-5242(a). Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth ISI interval at PBNP, Units 1 and 2, or until such time as Code Case N-533-1 is published in a future revision of Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1."

Further details on the bases for the NRC staff's conclusions are contained in the enclosed safety evaluation. If you have any questions regarding this issue, please contact Deirdre W. Spaulding at (301) 415-2928.

Sincerely,

/RA/

L. Raghavan, Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure: Safety Evaluation

cc w/encl: See next page

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Point Beach Nuclear Plant, Units 1 and 2

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March 2002

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE FOURTH INSERVICE INSPECTION INTERVAL

RELIEF REQUEST 5

NUCLEAR MANAGEMENT COMPANY, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

Inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components is to be performed in accordance with the ASME *Boiler and Pressure Vessel Code* (the Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Article IWA-5242(a), and applicable addenda, as required by the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(6)(g)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if the licensee demonstrates that (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2 and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. For the Point Beach Nuclear Plant (PBNP), Units 1 and 2, the applicable edition of Section XI of the ASME Code for the fourth 10-year ISI interval is the 1998 edition with addenda through 2000.

By letter dated March 22, 2002, the Nuclear Management Company, LLC (the licensee), submitted a request for relief (Relief Request 5 (RR-5)) from certain ASME Code, Section XI, requirements for the ISI. The information provided by the licensee in support RR-5 has been evaluated by the NRC staff and the basis for its disposition is documented below.

ENCLOSURE

## 2.0 EVALUATION

### 2.1 RR-5 for PBNP, Units 1 and 2

Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee requested relief from the VT-2 visual examination requirements of IWA-5242 for bolted connections as specified in the ASME Code, Section XI, 1998 edition with addenda through 2000.

### 2.2 Components for Which Relief is Requested

Bolted connections on Class 1, 2, and 3 systems borated for the purpose of controlling reactivity.

### 2.3 ASME Code Requirement from Which Relief is Requested

ASME Code, Section XI, 1998 edition with addenda through 2000, Article IWA-5242(a), requires a VT-2 visual examination on bolted connections on systems borated for controlling reactivity during system pressure tests, as prescribed.

### 2.4 Content of the Relief Request

Relief is requested to conduct a VT-2 visual examination according to Code Case N-533-1, "Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure Retaining Bolted Connections, Section XI, Division 1," in lieu of the VT-2 visual examination of the bolted connections, as required by the 1998 edition of the ASME Code, Section XI, Article IWA-5242.

### 2.5 Basis for Requesting Relief and Justification for Granting Relief

The licensee states that Code Case N-533-1 provides an acceptable level of quality and safety by requiring that Section XI examinations be performed while a component is at safe operating pressures and temperatures. The licensee states that examinations performed will find evidence of leakage by having the examiners look for boric acid residue, which accumulates around leakage sites, or any other evidence of leakage. The licensee states that Code Case N-533-1 meets the intent of Section XI, IWA-5240, requirements by requiring the licensee to examine bolted connections for evidence of leakage and bolt degradation.

### 2.6 Proposed Alternative Examination

The licensee proposes to use the alternative requirements of Code Case N-533-1.

Each refueling outage, the licensee proposes to remove the insulation from the bolted connections and perform a VT-2 visual examination on Class 1 systems in accordance with paragraph (b) of Code Case N-533-1. For Class 2 and 3 systems, the licensee proposes the same examination to be performed once each period. The connections will not be pressurized during the examination. Any leakage will be evaluated in accordance with IWA-5250.

In addition to the requirements of paragraph (a) of Code Case N-533-1, the system pressure test and VT-2 examination, with the insulation installed on bolted joints at normal operating pressures and temperatures, will include a 4-hour hold time, as required.

## 2.7 NRC Staff Evaluation

The NRC staff finds that the alternative included in Code Case N-533-1 provides an acceptable approach to ensuring the leak-tight integrity of systems borated for the purpose of controlling reactivity. The approach includes a system pressure test and a VT-2 visual examination which will be performed each period for Class 2 and 3 systems and each outage for Class 1 systems. The NRC staff finds use of this code case acceptable based on utilization of a minimum 4-hour hold time for the system pressure test. The 4-hour hold time will allow any leakage to penetrate the insulation, thus providing a means of detecting any significant leakage with the insulation in place. By removing the insulation each outage for Class 1 systems and each inspection period for Class 2 and 3 systems, the licensee will be able to detect minor leakage indicated by the presence of boric acid crystals or residue. The NRC staff finds that this two-step approach will provide an acceptable level of quality and safety, and that the licensee's proposed alternatives will provide reasonable assurance of integrity for pressure-retaining bolted connections in Class 1, 2 and 3 systems.

## 2.8 Summary

Based on the above evaluation, the NRC staff concludes that the use of Code Case N-533-1 provides an acceptable level of quality and safety for examination of the bolted connections on systems borated for controlling reactivity during system pressure tests, as prescribed by Section XI, Article IWA-5242(a). Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth ISI interval at PBNP, Units 1 and 2, or until such time as Code Case N-533-1 is published in a future revision of Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1." After that time, if the licensee wishes to continue to use Code Case N-533-1, it must follow all conditions and limitations, if any, listed in the regulatory guide.

## 3.0 CONCLUSION

The NRC staff has concluded, based on the considerations discussed above, that there is reasonable assurance that the health and safety of the public will not be endangered by implementation of the proposed alternatives, and that such activities will be conducted in compliance with the Commission's regulations.

Principal Contributor: J. Lamb

Date: October 8, 2002